

ABSTRACT OF THE DISCLOSURE

A digitally implemented slew rate controller for a power supply and a power supply having the same. An output up-programming signal is provided that enables the power supply to change an output voltage and current at a maximum rate which does not engage the protection circuits which are employed to protect components of the power supply. The maximum rate of change decreases as the output voltage increases. The up-programming speed of the power supply output optimizes the output by considering that an amount of output current available for charging an output capacitor of the power supply will decrease as the output voltage increases for a resistive load. An output down-programming control signal enables a discharge device to dissipate heat with a constant power characteristic, which will minimize a time required to reduce the output voltage while not exceeding a maximum power dissipation rating of the discharge device.